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Witness \_\_\_\_\_

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TITLE 35 ENVIRONMENTAL PROTECTION AGENCY

Sewers (extra-heavy cast iron pipe, asbestos-cement pressure pipe, prestressed concrete pipe, or PVC pipe meeting water main standards, with pressure tested, leaded, mechanical or slip-on joints) 10'

Washwater sumps of reinforced concrete construction 10'

Flood waters - A horizontal distance shall be maintained by natural earth or fill. In addition, wells shall have a six inch concrete envelope completely surrounding the regular casing and extending at least 10 feet below original ground surface 15'+

Flood waters - A vertical distance shall be maintained to which structure and earth protection must be carried above maximum high water elevation 2'

- \* The Agency shall consider special structural arrangements equivalent to earthen construction for protection of the well when horizontal earth protection is impractical.

- d) Community water supplies having fuel storage tanks shall provide protection of all underground water works facilities from leaks which may develop or occur in the fuel tanks or fuel lines.

**Section 653.119 Protection of Water Main and Water Service Lines**

Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows:

a) Water Mains:

b)

1) Horizontal Separation:

- A) Water mains shall be laid at least ten feet horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.
- B) Water mains may be laid closer than ten feet to a sewer line when:
- local conditions prevent a lateral separation of ten feet;
  - the water main invert is at least 18 inches above the crown of the sewer; and
  - the watermain is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.
- C) Both the water main and drain or sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, asbestos-cement pressure pipe, prestressed concrete pipe, or PVC pipe meeting the requirements of Section 653.111 when it is impossible to meet (A) or (B) above. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling.

2) Vertical Separation:

- A) A water main shall be laid so that its invert is 18 inches above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within ten feet horizontally of any sewer or drain crossed. A length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.
- B) Both the water main and sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, asbestos-cement pressure pipe, prestressed concrete pipe, or PVC pipe meeting requirements of Section, 653.111 when:
- it is impossible to obtain the proper vertical separation as described in (A) above; or
  - the water main passes under a sewer or drain.
- C) A vertical separation of 18 inches between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the water main.
- D) Construction shall extend on each side of the crossing until the normal distance from the water main to the sewer or drain line is at least ten feet.

c) Water Service Lines:

- The horizontal and vertical separation between water service lines and all storm sewers, sanitary sewers, combined sewers or any drain or sewer service connection shall be the same as water main separation described in (a) above.
  - Water pipe described in (a) above shall be used for sewer service lines when minimum horizontal and vertical separation cannot be maintained.
- d) Special Conditions - Alternate solutions shall be presented to the Agency when extreme topographical, geological or existing structural conditions make strict compliance with (a) and (b) above technically and economically impractical. Alternate solutions will be approved provided watertight construction structurally equivalent to approved water main

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- material is proposed.
- e) Water mains shall be separated from septic tanks, disposal fields and seepage beds by a minimum of 25 feet.
  - f) Water mains and water service lines shall be protected against entrance of hydrocarbons through diffusion through any material used in construction of the line.

**Section 653.120 Piping Identification**

- a) Piping in a water treatment facility shall be identified clearly by legends and color coding as described in the Standards or American National Standards Institute (ANSI) Standard A-13.1. A consistent standard shall be used throughout the system.
- b) Potable water lines shall be clearly and permanently identified where dual water lines or pressure sewer systems exist.

**SUBPART B: OPERATION AND MAINTENANCE**

**Section 653.201 Required Supervision**

Specific information required by 35 Ill. Adm. Code 603 shall be furnished by completing a Notification of Ownership or Responsible Personnel form available from the Agency.

**Section 653.202 Chemical Addition**

- a) Chemicals added to drinking water and passed to the distribution system shall be approved by the United States Environmental Protection Agency (USEPA) (pursuant to provisions of the Safe Drinking Water Act (42 U.S.C. 300f et seq. (1980)), the Toxic Substance Control Act (15 U.S.C. 2604 et seq. (1982)), or the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq. (1980)) or the United States Food and Drug Administration (USFDA) (pursuant to the Federal Food, Drug and Cosmetic Act (21 U.S.C. 301 et seq. (1983)) and meet the purity requirements of Water Chemicals Codex, National Research Council of the National Science Foundation. All chemical containers shall bear the name, address and telephone number of the supplier, along with a functional name or identification and strength of the chemical. Chemicals shall not be fed in excess of the maximum dosage approved by USEPA or USFDA.
- b) Chemicals added for raw water treatment including but not limited to clarification, softening and constituent removal not intended to pass to the distribution system shall meet American Water Works Association Standards purity requirements of Water Chemicals Codex, National Research Council of the National Science Foundation. The chemical shall be specifically approved for use by the USEPA (pursuant to provisions of the Safe Drinking Water Act, the Toxic Substance Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act) or the USFDA (pursuant to the Federal Food, Drug and Cosmetic Act). Chemicals shall not be fed in excess of the maximum dosage approved by USEPA or USFDA.
- c) A free chlorine residual of 10 mg/l shall be maintained at all times in stock solutions used for iron and/or manganese sequestration. This chlorine residual shall not replace the chlorination requirement of 35 Ill. Adm. Code 604.401.
- d) Protective paints and coatings, concrete coatings and admixtures, grouts and liners used in a community water supply shall be approved by the USEPA (pursuant to provisions of the Safe Drinking Water Act, the Toxic Substance Control Act, or the Federal Insecticide, Fungicide and Rodenticide Act).

**Section 653.203 Exceptions for Community Water Supplies**

- a) Replacement in existing community water supplies of components such as pressure tanks, water mains, pressure filters or ion exchange softeners that do not meet the Standards or these Technical Policy Statements shall not be required if:
  - 1) the finished water meets the water quality standards of 35 Ill. Adm. Code 604; and
  - 2) water pressure meets the standards of Section 653.106; and either
  - 3) the components were permitted by the State Agency, other than this Agency, having administrative program authority at the time of construction; or
  - 4) no permits were required from any State Agency at the time of construction.
- b) All components shall meet the Standards and these Technical Policy Statements when replacement for any reason is planned.
- c) Expansion shall not be permitted until requirements of the Standards and these Technical Policy Statements are met.

**SUBPART C: REPAIR WORK AND EMERGENCY OPERATION**

**Section 653.301 Protection During Repair Work**

Official custodians of community water supplies shall protect the water supply from contamination when any part of the system is out of service for repair, construction, alteration or replacement.

**Section 653.302 Disinfection Following Repair or Replacement**

Any part of a community water system which has direct contact with finished water and has been out of service for repair, alteration or replacement shall be disinfected as required by Section 652.203 before being returned to service. Equipment which does not come in contact with finished water such as raw surface water pumps, raw surface water transmission lines, chemical mixing tanks and clarifiers need only be flushed before being returned to service. Filters shall be disinfected. Wells, water